

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

516 516
PCT/JP2003/007112
10/516516

PCT/JP2003/007112



| | | |
|--|---|---|
| Applicant's or agent's file reference F-2873WO | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/JP2003/007112 | International filing date (day/month/year) 05 June 2003 (05.06.2003) | Priority date (day/month/year) 05 June 2002 (05.06.2002) |
| International Patent Classification (IPC) or national classification and IPC B29C 47/60 | | |
| Applicant KABUSHIKI KAISHA BRIDGESTONE | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 26 December 2003 (26.12.2003) | Date of completion of this report 18 August 2004 (18.08.2004) |
| Name and mailing address of the IPEA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/007112

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement under Article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages _____☐ the claims, Nos. _____☐ the drawings, sheets/fig _____5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/07112

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

The subject matters of claims 1-6, 8 and 9 relate to a rubber member, and a production method and apparatus (an extruder screw) for the rubber member.

The subject matter of claim 7 relates to a method for producing an extruder screw.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos. _____

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP03/07112

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|------------|-----|
| Novelty (N) | Claims | 3, 6-9 | YES |
| | Claims | 1, 2, 4, 5 | NO |
| Inventive step (IS) | Claims | | YES |
| | Claims | 1-9 | NO |
| Industrial applicability (IA) | Claims | 1-9 | YES |
| | Claims | | NO |

2. Citations and explanations

Document 1: JP, 4-176628, A (Toranosuke Murakami), 24 June, 1992 (24.06.92), the claims, page 1, lower right column, line 2 to page 2, upper left column, line 6, Figs. 1 and 5
 Document 2: JP, 6-254943, A (Toyoda Gosei Co., Ltd.), 13 September, 1994 (13.09.94), the claims, Fig. 1
 Document 3: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 64788/1990 (Laid-open No. 24327/1992) (Fujikura Ltd.), 27 February, 1992 (27.02.92), claims of utility model, page 2, lines 1-5, page 8, lines 9-12, Fig. 6
 Document 4: JP, 6-182853, A (Bridgestone Corp.), 5 July, 1994 (05.07.94), paragraph [0001], Fig. 1
 Document 5: US, 5004352, A (Mitsubishi Heavy Industries, Ltd.), 2 April, 1991 (02.04.91), column 1, lines 8-14, Fig. 26
 Document 6: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 145570/1984 (Laid-open No. 64429/1986) (Kobe Steel, Ltd.), 1 May, 1986 (01.05.86), Fig. 2

The subject matters of claims 1 and 2 do not appear to be novel or to involve an inventive step in view of the inventions described in documents 1-3. Also for the extruder screw described in any of documents 1-3, it is described that the flight height at the region positioned below the hopper port on the upstream side of the screw is lower than the flight height on the downstream side.

The subject matter of claim 3 does not appear to involve an inventive step in view of the inventions described in documents 1-6. Since a screw in which the number of starts of the threads on the upstream side is smaller than the number of starts of the threads on the downstream side is well known as an extruder screw for rubber as described in documents 4-6, a person skilled in the art could have easily applied the screw described in documents 1-3.

The subject matter of claim 4 does not appear to be novel or to involve an inventive step in view of the invention described in document 1. Also for the screw described in document 1, it is described that the thread intervals on the upstream side are wider than the thread intervals on the downstream side.

The subject matter of claim 5 does not appear to be novel or to involve an inventive step in view of the inventions described in documents 1-3. Documents 1-3 also describe that the thread diameter on the upstream side is larger than the thread diameter on the downstream side.

The subject matters of claims 6 and 7 do not appear to involve an inventive step in view of the inventions described in documents 1-3. How small the flight height at the region positioned below the hopper port should be made in the invention described in any of documents 1-3 is a technical matter that could have been set as required by a person skilled in the art.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/07112

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of : I.5

The written amendment dated 30 April, 2004 adds the following technical matter, "the height of the flight portion at the region positioned below the hopper port of the screw is lower than the height of the flight portion on the downstream side by a predetermined angle within one round," to pages 2-3 of the specification and claims 2 and 11.

However, the specification submitted on the filing date of the present application does not describe the technical matter in which the height of the flight portion at the region positioned below the hopper port is lower than the height of the flight portion on the downstream side "by a predetermined angle within one round."

Therefore, the amendment of pages 2-3 of the specification, claims 2 and 11, and claims 3-10 quoting claims 2 and 11 exceeds the scope of the disclosure made on the filing date of the present application.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/07112

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of : V.2

The subject matters of claims 8 and 9 do not appear to involve an inventive step in view of the inventions described in documents 1-4. Documents 1-3 also describe that a rubber member is produced by extrusion molding, and furthermore, as disclosed in document 4, a rubber member produced by extrusion molding for use in a tire is well known.